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Federal Communications Commission
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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
Proposals to Revise the)
Methodology for Determining)
Universal Service Support)

CC Dkt Nos. 96-45; 97-160
DA 98-715

COMMENTS REGARDING UNIVERSAL SERVICE METHODOLOGY

Time Warner Communications Holdings Inc. ("TWComm"), by its attorneys, hereby files this proposal to revise the methodology for determining universal service support for carriers providing service to high-cost non-rural areas.

DISCUSSION

These comments focus on the need for the Commission's high-cost subsidy program to account for the greater ability of households in high-income Census Block Groups ("CBGs") to pay for basic telephone exchange service. The efficiency and fairness of accounting for affordability in high-cost funding as well as the statutory basis for doing so cannot be disputed. Of course, in the past, political considerations rather than sound policy have resulted in high-cost funding distribution without regard to affordability. But as the Commission well knows, ignoring affordability imposes very real and substantial costs on society generally and on universal service fund contributors, especially CLECs like TWComm that (unlike most incumbents) have no secure means of passing through their contributions to customers. These

comments and the attached study are submitted for the purpose of quantifying on a national basis just how costly the current system is. In light of these costs, the FCC must now, more than ever, strive to limit high-cost funding, wherever possible, to those areas where such funding is necessary to achieve affordability.

Section 254(b) (1) of the Communications Act requires the Commission to base its Universal Service policies on, inter alia, the following principle: "Quality services should be available at just, reasonable and affordable rates."¹ In its First Report and Order,² the Commission agreed with the Joint Board's conclusion and found that consumer income level should be a factor in developing a universal service mechanism.³ The Commission defined "affordability" to contain an absolute component which takes into account an individual's ability to pay for telephone service (i.e. consumers "have the means for" fully cost based rates), as well as a relative component which accounts for whether consumers are spending a disproportionate amount of their income on telephone services (i.e. whether paying fully cost-based rates would create a "serious detriment" for those consumers). Where both of these standards are met, therefore,

¹ 47 U.S.C. § 254(b) (1).

² See Federal-State Joint Board on Universal Service, First Report and Order, 12 FCC Rcd 8776 (rel. Nov. 8, 1996) ("First Report and Order").

³ See id. at ¶ 100.

established FCC policy counsels against application of high-cost subsidies.⁴

In addition, charging cost-based rates in high-income areas is both efficient and fair. As a general matter, any subsidy distorts pricing signals and causes the beneficiaries of the subsidy to buy more of the subsidized service than they would if forced to pay full price. Further, where other carriers must pay for the subsidy, those carriers' cost of doing business is increased. A CLEC like TWComm, which only offers service in highly competitive markets, will often be required to absorb universal service payments, thus artificially reducing profit margins and discouraging efficient investment. Even where TWComm can pass its universal service payments through to customers, higher prices can artificially diminish the quantities of the services consumed. In either case, TWComm in particular and competition more generally can be significantly harmed.

Further, while, in some cases, the social benefits of subsidies justify the inefficiencies they cause, this is clearly not the case with regard to high-cost funding for the wealthy. Wealth transfers to consumers with relatively high incomes advance absolutely no identifiable social goal.

⁴ It is also noteworthy that the FCC has decided to base the level of subsidies for schools and libraries in large part on the relative wealth of the school or library. See id. at ¶¶ 498-500. In addition, the FCC and the states have traditionally targeted both the Lifeline and Link Up programs to low income subscribers.

In the attached paper, "Defining the Universal Service 'Affordability' Requirement: A Proposal for Considering Community Income As a Factor in Universal Service Support" ("ETI Study"), Economics and Technology, Inc. ("ETI") quantifies the harm in not recognizing that consumers in the top 30 percent income bracket "have the means for" paying cost-based rates without "serious detriment." The ETI Study analyzes average income by CBG in conjunction with cost model results to determine universal service funding requirements in high-cost, high-income areas. It demonstrates that approximately 20-30% of the high-cost universal service fund could be eliminated if support were limited to households with incomes below the 70th income percentile. See ETI Study at 3. This could result in up to \$4.5 billion in savings nationally. The harms and benefits of incorporating and not incorporating the affordability factor, respectively, are fully illustrated in the Paper's tables and appendices. See ETI Study at attachment A tables 1-3, appendices A and B.⁵

Thus, the FCC should work toward eliminating federal universal service funding for CBGs with average median incomes above an appropriate threshold, for example the 70th percentile. The elimination of these subsidies will of course result in lower compensation for the carrier serving these high-cost areas. In many states, incumbent LECs do not have the flexibility to raise

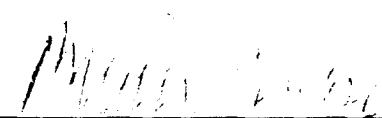
⁵ The table on page 4 of the ETI Study illustrates the level of savings that can be achieved in the aggregate across all households in a particular CBG -- such as Bedford, New York.

rates to account for the elimination of the federal subsidy. A state could respond to this problem either by gradually phasing in cost-based rates to avoid rate shock (the preferred outcome) or by increasing the state subsidy to make up for the loss of federal funds. In any event, the decision to subsidize high-income areas (where cost-based rates are clearly affordable based on the FCC's established construction of the term as it appears in Section 254(b)(1)) should be made by and paid for by the states. In addition, as the ETI Study acknowledges, certain consumers in a particular high income CBG may not have the ability to pay cost-based local telephone rates without serious difficulty. Accordingly, where a state has transitioned to cost-based rates, it may be necessary to establish a "safety net" for those consumers. Finally, the FCC should consider establishing a cost-based local service "cap" beyond which all costs would be subsidized at the federal level, so as to avoid any consumer shouldering an extraordinarily burdensome monthly local telephone bill.

These adjustments are of course designed to prevent hardship in the application of the affordability criterion to high-cost funding. The administrative burdens associated with these adjustments are most likely outweighed by the potentially huge cost savings and consequent competitive benefits of accounting for affordability in subsidizing high-cost areas. TWComm therefore respectfully requests the Commission to incorporate into its universal service cost mechanism an adjustment for high-

income CBGs consistent with the "affordable" factor set forth in
Section 254(b)(1).

Respectfully submitted,



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APPENDIX

DEFINING THE UNIVERSAL SERVICE "AFFORDABILITY" REQUIREMENT

A Proposal for Considering Community Income As a Factor in Universal Service Support¹

The extent to which basic local telephone service is "affordable" to an individual consumer is critically dependent upon that consumer's relative income and wealth.

The *Telecommunications Act of 1996* explicitly requires that "affordability" be included as a consideration in the development of a comprehensive universal service support mechanism: "Quality and rates — Quality services should be available at just, reasonable, and *affordable* rates."² Taking its cue from the legislation, the Federal-State Joint Board on Universal Service (Joint Board), in its November 8, 1996 *Recommended Decision* on Universal Service policy, expressly concluded that "[c]ustomer income level is a factor that should be examined when addressing affordability."³ The FCC's *Report and Order* in its universal service proceeding agreed with the Joint Board's conclusion.⁴

Further, the FCC agreed that the "definition of affordability contains both an absolute component ('to have enough or the means for'), which takes into account an individual's means to subscribe to universal service, and a relative component ('to bear the cost of without serious detriment'), which takes into account whether consumers are spending a disproportionate amount of their income on telephone services."⁵

Thus, to the extent certain consumers "have the means for" fully cost-based rates for universal service that does not create a "serious detriment" for those consumers, such rates must be considered affordable under the 1996 Act. The extent to which any given product or service is "affordable"

¹ This paper was prepared on behalf of Time Warner Communications, Inc. under the direction of Donald Shephard, Director Federal Regulatory Affairs and Policy, with the assistance of Dr. Lee L. Selwyn, Susan M. Baldwin, and Melissa N. Markley, respectively, President, Vice President, and Analyst of Economics and Technology, Inc., Boston, Massachusetts 02108.

² 47 U.S.C. § 254(b)(1). Emphasis supplied.

³ *In the Matter of Federal-State Joint Board on Universal Service*, Recommended Decision, CC Docket No. 96-45, released November 8, 1996 (hereinafter "Recommended Decision"), at ¶ 129.

⁴ *In the Matter of Federal-State Joint Board on Universal Service*, Report and Order, CC Docket No. 96-45, released May 8, 1997, at ¶ 115.

⁵ Report and Order, at ¶ 110.

Defining the Universal Service "Affordability" Requirement

obviously depends heavily upon the individual consumer's income and wealth; what is "affordable" to a low-income household is not the same as what is "affordable" to affluent households.⁶ Thus, in developing a universal service support mechanism that conforms to the statutory requirement that basic local telephone service be "affordable," it is necessary that household income somehow be included among the criteria under which the extent of universal service support is to be determined.

In fact, most states and the FCC currently apply income criteria in determining eligibility for income-targeted support programs such as "lifeline" and "Link-up America." For these programs, income (and other eligibility metrics) are determined on a customer-by-customer basis. These income-related funding schemes would not be affected by the creation of a formal universal service support mechanism, although the amount of such customer-specific support might change.

Both the FCC (in its March 8, 1996 NPRM) and the Joint Board (in its November 8, 1996 *Recommended Decision*) have advocated the use of so-called "cost proxy models" as a means for efficiently estimating the per-line incremental cost and the associated support requirement for a given geographical area.⁷ In its *Report and Order*, the FCC provided a timetable for further proceedings to adopt a forward-looking, cost methodology by August 1998.⁸ The various cost proxy models that have been offered examine costs at a highly granular level, in most cases with respect to geographic areas known as "Census Block Groups" (CBGs). A CBG is a demographic unit developed by the US Census Bureau that is described as including "usually between 250 and 550 housing units, with the ideal size being 400 housing units."⁹ There are approximately 200,000 CBGs nationwide. The CBG is a basic unit of Census aggregation, and is generally designed to embrace an area containing a relatively homogeneous population (with respect to geography, demographics, etc.) Thus, the *median* household income for a given CBG is generally representative of the *individual* household incomes within that CBG.

While the various cost proxy models undertake to simulate the structure of the local telephone service plant, and in so doing to estimate the per-access line cost of local telephone service on a forward-looking basis, none of the models that have been submitted in the FCC's proceeding consider the *income* of the households that are being examined as to their eligibility for high cost support. Significantly, however, such CBG-specific income data is routinely collected and reported by the Census Bureau, and can provide an additional benchmark against which the support requirement can be evaluated.

⁶ Report and Order, at ¶ 115.

⁷ Notice of Proposed Rulemaking and Order Establishing Joint Board, CC Docket No. 96-45, released March 8, 1996 at ¶¶ 31-34; *Recommended Decision*, at ¶¶ 7, 184-185.

⁸ Report and Order, at ¶ 245.

⁹ 1990 Census of Population and Housing, Summary Population and Housing Characteristics, New York, at A-3 to A-5.

Defining the Universal Service "Affordability" Requirement

Subsidization of basic local telephone service without regard to income levels will impose inefficient economic burdens across all segments of the US telecommunications industry, will increase the costs of entry, and will diminish competition overall.

Failure on the part of state and federal regulators to consider and apply an income test is not only inconsistent with the statutory requirement regarding “affordability,” it is also highly inefficient as a matter of economic policy. Subsidizing consumers who can fully afford to pay the entire cost of their telephone service — and whose decision to take service is unaffected by the presence of such a subsidy — serves only to impose significant costs and economic burdens upon other segments of the economy while producing no offsetting economic or social benefit. Among other things, a funding obligation that is larger than that which is necessary to achieve the universal service goal will serve to increase the costs of and barriers to entry, suppress demand for price-elastic services, and diminish the prospects for effective competition overall. The magnitude of these costs and deadweight losses may be considerable: As demonstrated below, approximately 20-30% of the aggregate universal service funding requirement for high-cost areas (depending on the level of the revenue benchmark) could be eliminated if the support were limited to households with incomes below the 70th income percentile. This could mean that up to approximately \$4.5-billion in support burden could be avoided annually if such a policy were adopted.

Application of the income-blind cost proxy models would produce the anomalous result of *subsidizing* areas of extremely high household incomes merely because the cost of providing basic telephone service in those areas happens to exceed the nominal revenue benchmark that is ultimately adopted.¹⁰ Table 1 below provides examples of just a few of the numerous high-income areas that would receive subsidies *even at a \$40 per month revenue benchmark*. Appendix A provides additional examples of high-income communities in each of the states that would receive high-cost support if no income-dependent affordability criterion is incorporated into the design of a universal service support program.

That high-income areas also exhibit high-cost characteristics should not be unexpected. Wealthy suburban communities are frequently characterized by large multi-acre lots and hilly terrains. As relatively low density areas, the cost proxies for these CBGs are often well above average and in fact considerably in excess of even the highest support threshold. Thus, for a household in Bedford, New York with a median income of \$120,487, a \$51.11 per month local telephone bill cannot be considered as somehow failing to satisfy the “affordability” requirement of the *Telecommunications Act*, yet could receive as much as \$145,221 in annual subsidies if income is ignored.

¹⁰ The FCC has determined that the revenue benchmark should comprise local service, access and other discretionary revenue. The FCC estimates the revenue benchmark for residential services to be \$31.

Defining the Universal Service "Affordability" Requirement

Table 1					
High-Cost Support Would Flow to Wealthy Communities Under Pending USF Proposals:					
Illustrative List of Areas Eligible for High-Cost Support					
Community	Median Household Income	BCM2 Proxy Cost	Annual per-line subsidy		
			\$20 level	\$30 level	\$40 level
Bedford, New York	\$120,487	\$51.11	\$145,221	\$98,541	\$51,861
Boca Grande, Florida	\$131,981	\$43.00	\$16,008	\$9,048	\$2,088
Casper North, Wyoming	\$102,264	\$213.95	\$4,655	\$4,415	\$4,175
Corpus Christi, Texas	\$126,113	\$40.85	\$24,520	\$12,760	\$1,000
Dover, Massachusetts	\$104,977	\$40.94	\$137,953	\$72,073	\$6,193
Greenwich, Connecticut	\$150,001	\$43.11	\$140,047	\$79,447	\$18,847
Grosse Pointe Farms, Michigan	\$150,001	\$42.97	\$38,314	\$21,634	\$4,954
Hilton Head, South Carolina	\$118,422	\$34.74	\$7,252	\$2,332	\$0
Lake Wales, Florida	\$134,408	\$57.02	\$43,536	\$31,776	\$20,016
Los Alamos, New Mexico	\$81,282	\$78.69	\$372,564	\$309,084	\$245,604
McLean, Virginia	\$126,101	\$34.15	\$101,710	\$29,830	\$0
Mercer Island, Washington	\$89,540	\$40.58	\$27,413	\$14,093	\$773
Nashville-Davidson, Tennessee	\$123,582	\$37.79	\$56,786	\$24,866	\$0
Riverside, Missouri	\$150,001	\$95.03	\$11,705	\$10,145	\$8,585
Roswell-Alpha Retta, Georgia	\$150,001	\$38.78	\$49,805	\$23,285	\$0
Scarsdale, New York	\$119,342	\$40.61	\$59,604	\$30,684	\$1,764
Simi Valley, California	\$125,400	\$57.21	\$158,961	\$116,241	\$73,521
Vail, Colorado	\$102,941	\$66.08	\$37,601	\$29,441	\$21,281
Sources: BCM2, 1990 Census of Population and Housing Summary Tape File 3A.					

Defining the Universal Service "Affordability" Requirement

While these extreme cases represent a small fraction of the more than 200,000 CBGs nationwide, more generally communities with relatively (and not necessarily extremely) high income households would still receive substantial subsidies under an income-blind application of the unadjusted BCM2 cost proxies. The tables in the following section of this paper highlight this point.

While this analysis is based upon proxy costs as developed by the BCM2¹¹ without making any of the various corrections that ETI and others have recommended,¹² there is no reason to expect the pattern or overall magnitude of these results to be substantially different if another cost proxy model, such as the Hatfield Model or the new BCPM, is adopted.¹³

Universal service support should be limited to CBGs whose household income falls below the 70th percentile of the income level for that state.

For the various reasons discussed here, it is appropriate for the Commission to include *CBG Household Income* as a threshold criterion for each area's eligibility to receive funding. Under this approach, funding would be limited to those CBGs whose median household income is below the threshold level. One such threshold might be the 70th percentile of the household income in each state. CBGs whose median household income exceeded this threshold (i.e., whose incomes were in the top 30th percentile) would simply be ineligible for high-cost funding irrespective of their individual proxy cost levels. As the analysis shown in Table 2 demonstrates, adoption of this income threshold would cut the overall universal service support requirement by approximately a quarter at the \$30 revenue benchmark. At the \$20 revenue benchmark, the annual universal service support under an income-blind approach would be \$14.7-billion; if CBGs with above-median household incomes are excluded for eligibility, the support level drops to only \$10.2-billion, *approximately \$4.5-billion less!*

Clearly, consumers in the top 30 percent income bracket "have the means for" paying cost-based rates without "serious detriment," i.e., those rates would not represent a disproportionate share of income. Cost-based rates in high-income areas would thus meet the affordability standard in the 1996 Telecommunications Act.

11. Joint Submission by Sprint Corporation, U S West, Inc., CC Docket No. 96-45, July 3, 1996.

12. See e.g., *Converging on a Cost Proxy Model for Primary Line Basic Residential Service: A Blueprint for Designing a Competitively Neutral Universal Service Fund*, Baldwin, Susan M. and Lee L. Selwyn, August 1996; *Continuing Evaluation of Cost Proxy Models for Sizing the Universal Service Fund: Analysis of the Similarities and Differences between the Hatfield Model and the BCM2*, Baldwin, Susan M. and Lee L. Selwyn, October 1996; *The Use of Forward-Looking Economic Cost Proxy Models*, Baldwin, Susan M. and Lee L. Selwyn, February 1997.

13. We have also focused our analysis on the provision of high-cost support to households. We recognize that the FCC has decided to adopt the Joint Board's recommendation that single-line businesses be eligible for high-cost support. Report and Order, at ¶¶ 95-96.

Defining the Universal Service "Affordability" Requirement

Table 2			
High-Cost Support for CBGs with Household Incomes In the Highest 30% in Each State			
Revenue Benchmark	Aggregate Annual High Cost Subsidy		
	Annual USF Subsidy to All CBGs under an Income-Blind Approach	Annual Subsidy going to CBGs with Highest 30% of Household Income	Percent of Total Subsidy going to High- Income CBGs
\$20	\$14,664,182,818	\$4,468,284,015	30.5%
\$30	\$7,424,505,733	\$1,765,844,278	23.8%
\$40	\$4,258,662,622	\$780,669,907	18.3%
Sources: BCM2, 1990 Census of Population and Housing Summary Tape File 3A			

While we believe that the 70th percentile is an appropriate income threshold, alternate income thresholds could also be considered. Estimates were therefore developed of the aggregate BCM2 subsidy flowing to CBGs in the top 50% and top 10%, respectively, of incomes in each state. These results are presented in Tables 3 and 4 below.

Defining the Universal Service "Affordability" Requirement

Table 3			
High-Cost Support for CBGs with Household Incomes Above the Median Level in Each State			
	Aggregate Annual High Cost Subsidy		
Revenue Benchmark	Annual USF Subsidy to All CBGs under an Income-Blind Approach	Annual Subsidy going to CBGs with Above-Median Household Income	Percent of Total Subsidy going to High-Income CBGs
\$20	\$14,664,182,818	\$7,900,816,877	53.9%
\$30	\$7,424,505,733	\$3,563,607,287	48.0%
\$40	\$4,258,662,622	\$1,807,377,281	42.4%
Sources: BCM2, 1990 Census of Population and Housing Summary Tape File 3A			

Table 4			
High-Cost Support for CBGs with Household Incomes In the Highest 10% in Each State			
	Aggregate Annual High Cost Subsidy		
Revenue Benchmark	Annual USF Subsidy to All CBGs under an Income-Blind Approach	Annual Subsidy going to CBGs with Highest 10% of Household Income	Percent of Total Subsidy going to High-Income CBGs
\$20	\$14,664,182,818	\$1,312,135,581	9.0%
\$30	\$7,424,505,733	\$412,468,003	5.6%
\$40	\$4,258,662,622	\$136,070,562	3.2%
Sources: BCM2, 1990 Census of Population and Housing Summary Tape File 3A			

Defining the Universal Service "Affordability" Requirement

Special consideration may need to be given to low-income consumers within high-cost, high-income areas.

A safety net should be provided for those consumers who live in a high-cost, high-income area, yet whose income level may be below that at which full, cost-based rates would be considered affordable. While there are many communities that tend to be homogeneous with respect to income level, many others may be characterized as having a wide range of income groups. The potential for wide income disparity will be minimized, however, by the use of smaller, discrete geographic areas, such as census block groups, to determine universal service funding. As discussed above, since CBGs are designed to capture areas with homogeneous demographics, the likelihood of broad income disparity within CBGs is minimal. Nevertheless, it may be necessary to provide a safety net for such individuals. For example, any consumer living within a designated high-cost, high-income area (i.e., above the 70th percentile within each state), whose income is below the median income for that state, would continue to pay the subsidized rate, as specified by the state commission, in place of the full, cost-based rate. Such consumers would provide the state USF administrator with a copy of his/her most recent federal or state income tax return (which would be kept strictly confidential) and the identity of their local service provider. The USF administrator would then notify the local service provider as to which customers qualified for the subsidized rate. The difference between the cost-based rate and the subsidized rate would be provided to the eligible local service carrier from the USF. The number of customers to qualify under this exception is not likely to create an undue administrative burden.

State commissions should establish a transition plan to full, cost-based rates in designated high-cost, high-income areas.

To avoid rate shock in those high-cost, high-income areas where a “gap” has been identified between the forward-looking cost of providing service and current rates for universal service allowed by the state commission, a transition plan can be established that would move rates toward full cost recovery over time. The length of such a transition plan would be governed by the degree of gap between current rates and costs, i.e., the larger the gap, the longer the transition. Until the gap is eliminated, eligible local service carriers would continue to receive USF support, albeit at a declining rate.

Without an income parameter, a proxy-cost model-based USF will provide massive amounts of support to high-income communities.

The USF support requirement for each state at each of the three benchmarks (50th, 70th, and 90th percentiles) is shown in Table B-1 in Appendix B. Incorporating income as a measure of affordability demonstrates that a substantial number of households do not require high cost support. Because none of the pending cost proxy models presently take income into consideration, they all vastly overstate the level of high cost support that is needed to achieve statutory universal service goals.

Depending upon the income guideline selected and assuming, for example, a \$30 support level, the national USF, as computed by the BCM2, would provide \$412.5-million annually to households with incomes in the top 10% of the CBGs; \$1.76-billion to the top 30%, or \$3.56-billion to the highest-

Defining the Universal Service "Affordability" Requirement

income 50% of US households. Appendix B provides a detailed description of the methodology used and also includes a table with the data and detailed results separately for each state.

Based upon a review of the extensive overlap that exists between high-cost and high-income areas, federal and state regulators should establish income guidelines so that public monies are directed specifically to those communities that require such support in order for basic telephone service to be priced at levels that they can afford. Residents of Vail, Colorado; Greenwich, Connecticut; Boca Grande, Florida; Scarsdale, New York; and the other communities illustrated in Appendix A, for example, do not require that their telephone rates be subsidized in order that they can continue to "afford" basic service. An examination of some of the particular communities that would be eligible for high cost support — unless regulators establish appropriate income guidelines — underscores the fact that the USF would be overly broad and provide support where it simply is not needed.

Recommendation

The proposal discussed in this paper is entirely compatible with and accommodates the Joint Board's Recommendation and the FCC's Report and Order relative to affordability and use of a revenue benchmark. The analysis undertaken in this paper demonstrates that there is a critical need to consider not only the *cost* of serving individual geographic areas, but also the *income* of the areas in question. State and federal regulators are urged to adopt the following recommendation:

- State and federal regulators should establish the 70th percentile for median CBG income as a threshold criterion for high-cost support eligibility, using relative income level with respect to the statewide income distribution. However, regulators could use a combination of state-specific and national income rankings rather than either a state-specific or national distribution, in setting eligibility thresholds. For example, if there are high-cost areas within a state which are above the 70th percentile in income for that state, but below the *national* median income, state commissions may determine that continued subsidies are warranted for such areas.
- Consumers within designated high-cost, high-income areas with income below the state median income should qualify for universal service at the current subsidized rate. Of course, individual households in such areas that satisfy the eligibility requirements for current income-targeted support programs, such as Lifeline and Link-up, can still qualify for and receive these benefits.
- State commissions should establish appropriate transition plans to move rates in high-cost, high-income areas toward their full, forward-looking costs.

We recommend that the 1990 income levels (the most recent ones contained in the Census Bureau's data base) be indexed to the point of implementation, e.g., January 1, 1999, for the federal USF, using an inflation index such as the individual state and/or regional Consumer Price Indices (CPIs), since this probably comes closest to reflecting price level changes that confront individual households.¹⁴ This

14. See US Department of Labor, Bureau of Labor Statistics, CPI Detailed Report, various years.

Defining the Universal Service "Affordability" Requirement

refinement would be unlikely to materially alter the rankings within a state, but could change the rankings among states if some combination of state and national income distributions are utilized.

Conclusion

The results of this analysis demonstrate that the present versions of the cost proxy models do not yet adequately apply the criterion of affordability to the assessment of the need for high-cost support. It is neither appropriate nor necessary to provide high cost support to high-income areas in order to achieve the objective of universal service. By incorporating an examination of the median income of CBGs (or whatever geographic area selected) into the calculation of high cost support, regulators can ensure that public funds are directed specifically to those areas that require such support. The universal service support fund should not be used as a way to subsidize basic service for those where affordability is not an issue. This paper has described a specific mechanism that can be used in conjunction with a cost proxy model in order to design an economically efficient, fair universal service program.

Appendix A

USF SUPPORT FOR SELECTED HIGH COST, HIGH INCOME LEVELS

Sources: BCM2, 1990 Census of Population and Housing Summary Tape File 3A

USF Support for Selected High Cost, High Income CBGs

State	Town	Monthly Cost	# HHs	\$40 support	\$30 support	\$20 support	Income
AL	Auburn	\$60.82	6	\$1,499	\$2,219	\$2,939	\$150,001
AL	Mtn. Brook	\$39.87	165	\$0	\$19,543	\$39,343	\$127,292
AL	Pike Road	\$46.78	63	\$5,126	\$12,686	\$20,246	\$112,072
AZ	Paradise Valley	\$37.01	272	\$0	\$22,881	\$55,521	\$137,299
AZ	Phoenix (106), Paradise Valley (157)	\$51.98	263	\$37,809	\$69,369	\$100,929	\$112,349
CA	Alamo	\$62.93	147	\$40,449	\$58,089	\$75,729	\$134,883
CA	Alamo	\$87.66	383	\$219,045	\$265,005	\$310,965	\$122,478
CA	Calabasas	\$53.54	275	\$44,682	\$77,682	\$110,682	\$100,760
CA	Carmel	\$56.34	351	\$68,824	\$110,944	\$153,064	\$101,854
CA	Coto de Caza	\$43.62	363	\$15,769	\$59,329	\$102,889	\$100,765
CA	Diablo Range	\$75.57	41	\$17,500	\$22,420	\$27,340	\$150,001
CA	Lafayette (11), Moraga (105), Central Contra Costa (30)	\$57.56	146	\$30,765	\$48,285	\$65,805	\$117,064
CA	Laguna Beach (160), South Coast (548)	\$44.41	708	\$37,467	\$122,427	\$207,387	\$109,601
CA	Los Altos	\$42.75	208	\$6,864	\$31,824	\$56,784	\$123,670
CA	Los Angeles	\$45.41	170	\$11,036	\$31,436	\$51,836	\$105,511
CA	Los Gatos	\$45.06	201	\$12,205	\$36,325	\$60,445	\$107,582
CA	Los Gatos (176), San Jose (111)	\$54.60	287	\$50,282	\$84,722	\$119,162	\$100,187
CA	Monterey	\$41.35	17	\$275	\$2,315	\$4,355	\$150,001
CA	(15)	\$53.20	243	\$38,491	\$67,651	\$96,811	\$113,421
CA	Saratoga (138), San Jose (61)	\$51.58	199	\$27,653	\$51,533	\$75,413	\$111,557
CA	Simi Valley	\$57.21	356	\$73,521	\$116,241	\$158,961	\$125,400
CA	Thousand Oaks	\$76.74	130	\$57,314	\$72,914	\$88,514	\$100,472
CA	West Santa Clara	\$80.12	27	\$12,999	\$16,239	\$19,479	\$138,093
CA	West Santa Clara	\$84.43	54	\$28,791	\$35,271	\$41,751	\$113,283
CA	Woodside	\$64.93	58	\$17,351	\$24,311	\$31,271	\$106,514
CO	Cherry Hills Village	\$40.63	179	\$1,353	\$22,833	\$44,313	\$113,621
CO	South Aurora	\$45.41	290	\$18,827	\$53,627	\$88,427	\$98,331
CO	Vail	\$66.08	68	\$21,281	\$29,441	\$37,601	\$102,941
CT	Fairfield	\$45.47	238	\$15,622	\$44,182	\$72,742	\$120,607
CT	Fairfield	\$48.02	237	\$22,809	\$51,249	\$79,689	\$114,074
CT	Greenwich	\$48.90	177	\$18,904	\$40,144	\$61,384	\$150,001
CT	Greenwich	\$44.77	436	\$24,957	\$77,277	\$129,597	\$150,001
CT	Greenwich	\$43.11	505	\$18,847	\$79,447	\$140,047	\$150,001
CT	Greenwich	\$43.13	486	\$18,254	\$76,574	\$134,894	\$131,811
CT	Greenwich	\$46.15	299	\$22,066	\$57,946	\$93,826	\$113,910
CT	New Canaan	\$46.07	334	\$24,329	\$64,409	\$104,489	\$150,001
CT	New Canaan	\$56.79	144	\$29,013	\$46,293	\$63,573	\$130,978
CT	New Canaan	\$43.64	401	\$17,516	\$65,636	\$113,756	\$121,912
CT	New Canaan	\$45.33	522	\$33,387	\$96,027	\$158,667	\$121,363
CT	New Canaan	\$46.40	222	\$17,050	\$43,690	\$70,330	\$117,182
CT	New Canaan (469), Darien (10)	\$43.51	479	\$20,175	\$77,655	\$135,135	\$111,408
CT	Weston	\$59.13	107	\$24,563	\$37,403	\$50,243	\$142,866
CT	Wilton	\$46.88	311	\$25,676	\$62,996	\$100,316	\$116,095
CT	Wilton	\$43.10	307	\$11,420	\$48,260	\$85,100	\$109,343
CT	Wilton	\$44.71	578	\$32,669	\$102,029	\$171,389	\$105,432
DC	Washington DC	\$31.92	83	\$0	\$1,912	\$11,872	\$134,792
DC	Washington DC	\$29.89	128	\$0	\$0	\$15,191	\$104,498

USF Support for Selected High Cost, High Income CBGs

State	Town	Monthly Cost	# HHs	\$40 support	\$30 support	\$20 support	Income
FL	Boca Grande	\$43.00	58	\$2,088	\$9,048	\$16,008	\$131,981
FL	Indian Creek Village	\$57.07	27	\$5,531	\$8,771	\$12,011	\$150,001
FL	Jupiter Island	\$37.05	236	\$0	\$19,966	\$48,286	\$150,001
FL	Kendall-Perrine	\$41.26	81	\$1,225	\$10,945	\$20,665	\$150,001
FL	Lake Wales	\$57.02	98	\$20,016	\$31,776	\$43,536	\$134,408
FL	North Key Largo	\$48.68	256	\$26,665	\$57,385	\$88,105	\$127,518
GA	Norcross	\$47.01	51	\$4,290	\$10,410	\$16,530	\$139,375
GA	Roswell-Alpharetta	\$38.78	221	\$0	\$23,285	\$49,805	\$150,001
GA	Sandy Springs	\$42.33	173	\$4,837	\$25,597	\$46,357	\$150,001
GA	Sandy Springs	\$34.90	33	\$0	\$1,940	\$5,900	\$150,001
GA	Sandy Springs	\$38.03	145	\$0	\$13,972	\$31,372	\$132,960
GA	St. Simons	\$56.58	194	\$38,598	\$61,878	\$85,158	\$150,001
HI	Honolulu	\$33.51	1,076	\$0	\$45,321	\$174,441	\$111,017
IA	Bloomfield	\$61.07	22	\$5,562	\$8,202	\$10,842	\$102,500
IA	Sioux City	\$40.30	218	\$785	\$26,945	\$53,105	\$89,173
IL	Barrington Hills Village	\$52.61	165	\$24,968	\$44,768	\$64,568	\$114,115
IL	Barrington Hills Village (9), Inverness Village (148)	\$45.03	157	\$9,477	\$28,317	\$47,157	\$137,526
IL	Glencoe Village	\$38.00	411	\$0	\$39,456	\$88,776	\$150,001
IL	Glencoe Village	\$37.47	295	\$0	\$26,444	\$61,844	\$150,001
IL	Lake Forest	\$32.10	245	\$0	\$6,174	\$35,574	\$150,001
IL	Lake Forest	\$41.17	222	\$3,117	\$29,757	\$56,397	\$125,000
IL	Oak Brook Village	\$35.13	151	\$0	\$9,296	\$27,416	\$150,001
IN	Carmel	\$41.19	61	\$871	\$8,191	\$15,511	\$150,001
IN	Indianapolis	\$39.40	162	\$0	\$18,274	\$37,714	\$102,611
IN	Indianapolis	\$38.23	352	\$0	\$34,764	\$77,004	\$100,294
KS	Olathe	\$51.49	106	\$14,615	\$27,335	\$40,055	\$103,263
KS	Overland Park (7), Oxford (48)	\$54.53	55	\$9,590	\$16,190	\$22,790	\$130,125
KY	Glenview Hills	\$31.17	400	\$0	\$5,616	\$53,616	\$108,877
LA	East Baton Rouge	\$36.78	300	\$0	\$24,408	\$60,408	\$95,518
LA	New Orleans	\$27.86	223	\$0	\$0	\$21,033	\$104,704
LA	New Orleans	\$28.06	142	\$0	\$0	\$13,734	\$98,518
LA	Shreveport	\$29.02	209	\$0	\$0	\$22,622	\$95,804
MA	Dover	\$40.94	549	\$6,193	\$72,073	\$137,953	\$104,977
MA	Dover	\$42.35	251	\$7,078	\$37,198	\$67,318	\$103,320
MA	Harvard	\$47.63	389	\$35,617	\$82,297	\$128,977	\$100,415
MA	Lincoln	\$40.42	367	\$1,850	\$45,890	\$89,930	\$108,561
MA	Southborough	\$52.98	262	\$40,809	\$72,249	\$103,689	\$98,635
MA	Weston	\$49.84	193	\$22,789	\$45,949	\$69,109	\$125,415
MD	Clarksville	\$45.56	56	\$3,736	\$10,456	\$17,176	\$150,001
MD	Clarksville	\$36.33	193	\$0	\$14,660	\$37,820	\$115,812
MD	N. Potomac	\$38.22	276	\$0	\$27,225	\$60,345	\$150,001
MD	Potomac	\$30.16	1,867	\$0	\$3,585	\$227,625	\$150,001
MD	Potomac	\$33.77	440	\$0	\$19,906	\$72,706	\$143,588
MI	Bloomfield	\$36.97	475	\$0	\$39,729	\$96,729	\$150,001
MI	Bloomfield	\$46.53	108	\$8,463	\$21,423	\$34,383	\$150,001
MI	Grosse Point Shores Village	\$40.74	294	\$2,611	\$37,891	\$73,171	\$136,369
MI	Grosse Pointe Farms	\$42.97	139	\$4,954	\$21,634	\$38,314	\$150,001

USF Support for Selected High Cost, High Income CBGs

State	Town	Monthly Cost	# HHs	\$40 support	\$30 support	\$20 support	Income
MN	North Oaks	\$31.66	454	\$0	\$9,044	\$63,524	\$125,660
MN	Rochester	\$47.68	152	\$14,008	\$32,248	\$50,488	\$123,572
MN	Rochester	\$53.06	251	\$39,337	\$69,457	\$99,577	\$103,286
MO	Ladue	\$37.63	180	\$0	\$16,481	\$38,081	\$117,296
MO	Riverside	\$95.03	13	\$8,585	\$10,145	\$11,705	\$150,001
NC	Charlotte	\$37.66	79	\$0	\$7,262	\$16,742	\$134,410
NC	Charlotte	\$42.49	55	\$1,643	\$8,243	\$14,843	\$127,293
NE	McArdle	\$37.70	119	\$0	\$10,996	\$25,276	\$150,001
NJ	Kinnelon	\$63.21	204	\$56,818	\$81,298	\$105,778	\$127,885
NJ	Kinnelon	\$70.50	498	\$182,268	\$242,028	\$301,788	\$111,006
NJ	Medford	\$62.95	23	\$6,334	\$9,094	\$11,854	\$150,001
NJ	Mendham	\$54.06	172	\$29,020	\$49,660	\$70,300	\$150,001
NJ	Rumson	\$41.69	176	\$3,569	\$24,689	\$45,809	\$150,001
NM	Albuquerque	\$29.56	458	\$0	\$0	\$52,542	\$106,240
NM	Albuquerque	\$31.95	453	\$0	\$10,600	\$64,960	\$88,273
NM	Los Alamos	\$78.69	529	\$245,604	\$309,084	\$372,564	\$81,282
NM	Sandia Hts. (81), Albuquerque (25)	\$58.54	106	\$23,583	\$36,303	\$49,023	\$85,963
NV	Reno-Sparks	\$39.63	175	\$0	\$20,223	\$41,223	\$94,342
NY	Bedford	\$47.01	315	\$26,498	\$64,298	\$102,098	\$150,001
NY	Bedford	\$51.11	389	\$51,861	\$98,541	\$145,221	\$120,487
NY	Mt. Pleasant	\$57.75	193	\$41,109	\$64,269	\$87,429	\$108,732
NY	New Castle	\$47.71	167	\$15,451	\$35,491	\$55,531	\$116,167
NY	New Castle	\$58.71	66	\$14,818	\$22,738	\$30,658	\$109,563
NY	North Castle	\$54.40	694	\$119,923	\$203,203	\$286,483	\$128,855
NY	Pound Ridge	\$45.54	351	\$23,334	\$65,454	\$107,574	\$109,027
NY	Pound Ridge	\$57.17	349	\$71,908	\$113,788	\$155,668	\$106,793
NY	Rye	\$45.91	159	\$11,276	\$30,356	\$49,436	\$150,001
NY	Rye	\$40.72	187	\$1,816	\$24,056	\$46,496	\$108,725
NY	Scarsdale	\$40.61	241	\$1,764	\$30,684	\$59,604	\$119,342
OH	Bexley	\$43.87	176	\$8,173	\$29,293	\$50,413	\$150,001
OH	Hunting Valley Village	\$56.16	255	\$49,450	\$80,050	\$110,650	\$126,786
OH	Madison	\$51.26	7	\$946	\$1,786	\$2,626	\$127,308
OH	Shaker Heights	\$39.99	127	\$0	\$15,225	\$30,465	\$150,001
OH	The Village of Indian Hill	\$41.98	162	\$3,849	\$23,289	\$42,729	\$150,001
OH	The Village of Indian Hill (589), Sycamore (213)	\$38.29	802	\$0	\$79,783	\$176,023	\$148,752
OK	Edmond	\$41.26	363	\$5,489	\$49,049	\$92,609	\$99,059
OK	Tulsa	\$45.15	49	\$3,028	\$8,908	\$14,788	\$150,001
OK	Tulsa	\$34.46	287	\$0	\$15,360	\$49,800	\$97,483
OR	Portland	\$34.87	394	\$0	\$23,025	\$70,305	\$105,991
OR	Portland	\$31.35	369	\$0	\$5,978	\$50,258	\$91,295
PA	Derry	\$96.70	7	\$4,763	\$5,603	\$6,443	\$150,001
PA	Fox Chapel	\$32.64	552	\$0	\$17,487	\$83,727	\$123,339
PA	McCandless	\$38.96	170	\$0	\$18,278	\$38,678	\$137,012
PA	Pennsbury	\$35.58	92	\$0	\$6,160	\$17,200	\$101,299
PA	Wycombe	\$89.84	11	\$6,579	\$7,899	\$9,219	\$150,001

USF Support for Selected High Cost, High Income CBGs

State	Town	Monthly Cost	# HHs	\$40 support	\$30 support	\$20 support	Income
RI	Barrington	\$32.23	370	\$0	\$9,901	\$54,301	\$90,023
RI	Providence	\$35.37	220	\$0	\$14,177	\$40,577	\$97,138
RI	Providence	\$37.30	373	\$0	\$32,675	\$77,435	\$96,432
RI	Providence	\$33.10	200	\$0	\$7,440	\$31,440	\$96,432
SC	Hilton Head Island	\$34.74	41	\$0	\$2,332	\$7,252	\$118,422
SC	Pontiac	\$38.46	219	\$0	\$22,233	\$48,513	\$100,240
TN	Forest Hills (233), Oakhill (8)	\$40.75	241	\$2,169	\$31,089	\$60,009	\$106,765
TN	Germantown	\$31.07	461	\$0	\$5,919	\$61,239	\$94,998
TN	Germantown (843), Memphis (23)	\$30.29	866	\$0	\$3,014	\$106,934	\$97,785
TN	Germantown (560), Memphis (23)	\$33.77	583	\$0	\$26,375	\$96,335	\$87,389
TN	Nashville-Davidson (150), Forest Hills (116)	\$37.79	266	\$0	\$24,866	\$56,786	\$123,582
TX	Corpus Christi	\$40.85	98	\$1,000	\$12,760	\$24,520	\$126,113
TX	Dallas	\$29.09	301	\$0	\$0	\$32,833	\$150,001
TX	Houston	\$30.13	115	\$0	\$179	\$13,979	\$150,001
TX	Hunters Creek Village	\$35.93	203	\$0	\$14,445	\$38,805	\$138,210
TX	San Antonio	\$35.93	201	\$0	\$14,303	\$38,423	\$150,001
TX	San Antonio	\$38.73	224	\$0	\$23,466	\$50,346	\$130,003
TX	Tyler	\$35.02	17	\$0	\$1,024	\$3,064	\$150,001
UT	Cottonwood Hts. (267), Holladay (35)	\$37.15	302	\$0	\$25,912	\$62,152	\$99,212
VA	Great Falls	\$42.97	426	\$15,183	\$66,303	\$117,423	\$119,728
VA	McLean	\$32.09	51	\$0	\$1,279	\$7,399	\$150,001
VA	McLean	\$34.15	599	\$0	\$29,830	\$101,710	\$126,101
VA	McLean (88), Great Falls (457), Dranesville (73)	\$34.76	618	\$0	\$35,300	\$109,460	\$121,209
VA	Springfield	\$47.55	223	\$20,204	\$46,964	\$73,724	\$106,461
VA	Springfield	\$41.98	83	\$1,972	\$11,932	\$21,892	\$105,138
WA	East Seattle (225), Bellevue (37), Eastgate (9)	\$36.01	271	\$0	\$19,545	\$52,065	\$103,405
WA	Medina	\$43.52	150	\$6,336	\$24,336	\$42,336	\$94,096
WA	Mercer Island	\$40.58	111	\$773	\$14,093	\$27,413	\$89,540
WA	Seattle	\$31.57	188	\$0	\$3,542	\$26,102	\$135,080
WA	Seattle	\$32.29	302	\$0	\$8,299	\$44,539	\$110,746
WI	Bayside (35), Mequon (589)	\$33.27	624	\$0	\$24,486	\$99,366	\$108,494
WI	River Hills	\$26.18	567	\$0	\$0	\$42,049	\$110,712
WI	Whitefish Bay	\$28.36	398	\$0	\$0	\$39,927	\$99,477
WY	Casper North	\$213.95	2	\$4,175	\$4,415	\$4,655	\$102,264
WY	Douglas	\$210.74	14	\$28,684	\$30,364	\$32,044	\$125,889
WY	Gillette South	\$208.58	3	\$6,069	\$6,429	\$6,789	\$102,264
WY	Gillette South	\$205.44	12	\$23,823	\$25,263	\$26,703	\$84,511
WY	Kaycee	\$205.47	1	\$1,986	\$2,106	\$2,226	\$150,001
WY	Kaycee	\$213.43	10	\$20,812	\$22,012	\$23,212	\$102,264
Sources: BCM2, 1990 Census of Population and Housing Summary Tape File 3A							

Appendix B

METHODOLOGICAL APPROACH AND STATE-SPECIFIC ANALYSIS

Analysis of High Cost Support at Selected Income Levels

State	Total Support for 100% CBGs *	Total Support for Bottom 90%	% Difference (100%-90%)/100%	Total Support for Bottom 70%	% Difference (100%-70%)/100%	Total Support for Bottom 50%	% Difference (100%-50%)/100%
Alabama							
\$40 benchmark	\$108,269,744	\$105,590,367	2.5%	\$86,467,581	20.1%	\$55,705,736	48.5%
\$30 benchmark	\$198,562,895	\$189,287,545	4.7%	\$149,404,052	24.8%	\$94,459,607	52.4%
\$20 benchmark	\$348,469,876	\$318,552,809	8.6%	\$241,572,100	30.7%	\$153,954,788	55.8%
HH Income	\$23,597	\$36,097		\$26,012		\$21,379	
Alaska							
\$40 benchmark	\$27,791,223	\$25,869,293	6.9%	\$21,833,781	21.4%	\$16,628,316	40.2%
\$30 benchmark	\$38,993,835	\$35,803,685	8.2%	\$28,950,612	25.8%	\$21,492,325	44.9%
\$20 benchmark	\$57,550,955	\$51,976,327	9.7%	\$40,559,980	29.5%	\$29,093,549	49.4%
HH Income	\$41,408	\$60,000		\$47,083		\$39,583	
Arizona							
\$40 benchmark	\$86,565,140	\$82,788,550	4.4%	\$75,579,402	12.7%	\$62,376,600	27.9%
\$30 benchmark	\$127,398,841	\$119,148,275	6.5%	\$104,423,144	18.0%	\$82,583,791	35.2%
\$20 benchmark	\$243,042,550	\$222,724,431	8.4%	\$180,959,939	25.5%	\$133,814,650	44.9%
HH Income	\$27,540	\$48,750		\$33,908		\$26,128	
Arkansas							
\$40 benchmark	\$113,799,749	\$110,397,032	3.0%	\$89,488,916	21.4%	\$58,940,981	48.2%
\$30 benchmark	\$175,545,100	\$167,472,363	4.6%	\$132,497,319	24.5%	\$86,416,728	50.8%
\$20 benchmark	\$285,795,537	\$246,043,004	7.4%	\$189,193,505	28.8%	\$123,486,069	53.5%
HH Income	\$21,147	\$31,029		\$23,382		\$19,537	
California							
\$40 benchmark	\$142,588,890	\$136,801,937	4.1%	\$122,692,308	14.0%	\$98,210,865	31.1%
\$30 benchmark	\$281,163,643	\$255,705,981	9.1%	\$210,424,512	25.2%	\$180,533,831	42.9%
\$20 benchmark	\$882,564,449	\$773,961,221	12.3%	\$572,975,245	35.1%	\$391,072,920	55.7%
HH Income	\$35,798	\$61,228		\$43,750		\$34,583	
Colorado							
\$40 benchmark	\$71,728,168	\$67,880,706	5.4%	\$56,328,819	21.5%	\$38,850,830	45.8%
\$30 benchmark	\$111,565,811	\$102,633,281	8.0%	\$81,659,968	26.8%	\$54,862,360	50.8%
\$20 benchmark	\$216,517,631	\$194,598,740	10.1%	\$146,649,650	32.3%	\$95,899,015	55.7%
HH Income	\$30,140	\$50,000		\$35,809		\$27,122	
Connecticut							
\$40 benchmark	\$30,760,236	\$27,843,412	9.5%	\$18,705,975	39.2%	\$8,850,541	71.2%
\$30 benchmark	\$69,893,084	\$59,872,418	14.3%	\$38,792,185	44.5%	\$18,927,128	72.9%
\$20 benchmark	\$167,163,841	\$145,671,694	12.9%	\$100,569,127	39.8%	\$56,741,090	66.1%
HH Income	\$41,721	\$68,401		\$51,101		\$42,344	
Delaware							
\$40 benchmark	\$5,477,012	\$5,477,012	0.0%	\$4,958,275	9.5%	\$3,984,527	27.2%
\$30 benchmark	\$13,902,700	\$13,640,268	1.9%	\$12,011,939	13.6%	\$9,120,332	34.4%
\$20 benchmark	\$34,971,797	\$32,675,318	6.6%	\$26,501,788	24.2%	\$18,463,844	47.2%
HH Income	\$34,875	\$52,554		\$39,175		\$31,836	
DC							
\$40 benchmark	\$10,877	\$10,877	0.0%	\$10,877	0.0%	\$10,877	0.0%
\$30 benchmark	\$336,514	\$293,752	12.7%	\$280,330	16.7%	\$240,967	28.4%
\$20 benchmark	\$3,870,145	\$3,323,887	14.1%	\$2,939,981	24.0%	\$2,227,164	42.5%
HH Income	\$30,727	\$65,794		\$42,292		\$31,312	
Florida							
\$40 benchmark	\$98,309,431	\$92,542,043	5.9%	\$78,051,672	20.6%	\$54,026,338	45.0%
\$30 benchmark	\$238,882,332	\$217,543,509	8.9%	\$171,026,180	28.4%	\$113,839,855	52.3%
\$20 benchmark	\$691,549,942	\$616,389,900	10.9%	\$450,140,339	34.9%	\$286,882,492	58.5%
HH Income	\$27,483	\$43,618		\$31,358		\$25,476	
Georgia							
\$40 benchmark	\$118,725,982	\$117,305,812	1.2%	\$106,123,974	10.6%	\$73,946,865	37.7%
\$30 benchmark	\$225,229,959	\$217,972,887	3.2%	\$185,614,824	17.6%	\$124,100,682	44.9%
\$20 benchmark	\$442,093,403	\$410,614,143	7.1%	\$321,234,143	27.3%	\$208,386,285	52.9%
HH Income	\$29,021	\$48,487		\$32,250		\$25,478	

Analysis of High Cost Support at Selected Income Levels

State	Total Support for 100% CBGs *	Total Support for Bottom 90%	% Difference (100%-90%)/100%	Total Support for Bottom 70%	% Difference (100%-70%)/100%	Total Support for Bottom 50%	% Difference (100%-50%)/100%
Hawaii							
\$40 benchmark	\$12,303,412	\$12,044,175	2.1%	\$11,279,216	8.3%	\$8,938,137	27.4%
\$30 benchmark	\$22,693,811	\$21,674,565	4.5%	\$19,141,719	15.7%	\$14,150,848	37.6%
\$20 benchmark	\$51,291,616	\$46,317,775	9.7%	\$36,303,998	29.2%	\$25,554,663	50.2%
HH Income	\$38,829	\$60,782		\$45,764		\$38,082	
Idaho							
\$40 benchmark	\$49,047,890	\$47,092,159	4.0%	\$37,759,597	23.0%	\$24,793,610	49.5%
\$30 benchmark	\$67,793,723	\$64,023,742	5.6%	\$50,832,427	25.0%	\$32,684,459	51.8%
\$20 benchmark	\$101,014,177	\$92,642,161	8.3%	\$72,034,928	28.7%	\$46,434,617	54.0%
HH Income	\$25,257	\$37,396		\$28,125		\$23,958	
Illinois							
\$40 benchmark	\$122,421,435	\$120,752,361	1.4%	\$108,863,692	11.1%	\$80,601,001	34.2%
\$30 benchmark	\$228,954,578	\$218,107,954	4.7%	\$184,877,996	19.3%	\$132,668,659	42.1%
\$20 benchmark	\$528,026,002	\$481,598,695	8.8%	\$373,940,439	29.2%	\$255,952,129	51.5%
HH Income	\$32,252	\$53,587		\$38,281		\$30,637	
Indiana							
\$40 benchmark	\$94,865,121	\$88,287,710	6.9%	\$60,392,160	36.3%	\$33,228,419	65.0%
\$30 benchmark	\$185,030,110	\$167,684,184	9.4%	\$113,477,704	38.7%	\$63,075,851	65.9%
\$20 benchmark	\$368,748,293	\$324,580,367	12.0%	\$224,537,993	39.1%	\$134,375,945	63.6%
HH Income	\$28,797	\$41,930		\$32,292		\$27,361	
Iowa							
\$40 benchmark	\$97,944,063	\$94,474,730	3.5%	\$75,531,382	22.9%	\$49,267,813	49.7%
\$30 benchmark	\$155,771,649	\$148,030,861	5.0%	\$117,272,897	24.7%	\$77,806,742	50.1%
\$20 benchmark	\$253,959,119	\$235,101,678	7.4%	\$183,269,997	27.8%	\$122,342,739	51.8%
HH Income	\$26,229	\$37,714		\$29,219		\$25,323	
Kansas							
\$40 benchmark	\$93,776,223	\$90,772,029	3.2%	\$70,628,391	24.7%	\$48,092,739	48.7%
\$30 benchmark	\$135,528,850	\$128,677,550	5.1%	\$98,567,995	27.3%	\$67,064,787	50.5%
\$20 benchmark	\$216,661,281	\$198,241,586	8.5%	\$147,434,214	32.0%	\$98,838,408	54.4%
HH Income	\$27,291	\$41,250		\$30,000		\$24,464	
Kentucky							
\$40 benchmark	\$109,247,643	\$106,611,840	2.4%	\$92,220,015	15.6%	\$69,535,849	36.4%
\$30 benchmark	\$192,062,787	\$184,056,167	4.2%	\$154,652,791	19.5%	\$114,143,418	40.6%
\$20 benchmark	\$323,873,103	\$300,196,917	7.3%	\$242,804,703	25.0%	\$173,890,367	46.3%
HH Income	\$22,534	\$36,450		\$26,389		\$20,833	
Louisiana							
\$40 benchmark	\$86,405,060	\$84,690,032	2.0%	\$72,727,842	15.8%	\$46,076,718	46.7%
\$30 benchmark	\$159,803,823	\$152,243,100	4.7%	\$124,499,182	22.1%	\$78,523,856	50.9%
\$20 benchmark	\$302,844,210	\$277,542,910	8.4%	\$215,351,240	28.9%	\$136,545,887	54.9%
HH Income	\$21,949	\$37,446		\$25,921		\$20,096	
Maine							
\$40 benchmark	\$83,273,866	\$77,194,773	7.3%	\$61,719,817	25.9%	\$44,868,022	46.1%
\$30 benchmark	\$119,192,822	\$109,259,535	8.3%	\$85,728,367	28.1%	\$61,217,844	48.6%
\$20 benchmark	\$166,243,367	\$151,443,273	8.9%	\$117,017,157	29.6%	\$82,116,465	50.6%
HH Income	\$27,854	\$39,792		\$31,469		\$27,326	
Maryland							
\$40 benchmark	\$23,251,531	\$22,860,473	1.7%	\$20,170,042	13.3%	\$15,472,344	33.5%
\$30 benchmark	\$57,229,901	\$54,237,214	5.2%	\$43,186,090	24.5%	\$29,818,286	47.9%
\$20 benchmark	\$169,320,456	\$153,060,258	9.6%	\$112,731,589	33.4%	\$70,965,284	58.1%
HH Income	\$39,386	\$63,996		\$46,707		\$37,011	
Massachusetts							
\$40 benchmark	\$34,183,623	\$30,856,083	9.7%	\$22,452,411	34.3%	\$11,836,661	65.4%
\$30 benchmark	\$86,074,470	\$73,962,539	14.1%	\$49,844,675	42.1%	\$25,230,814	70.7%
\$20 benchmark	\$232,987,722	\$201,169,303	13.7%	\$137,191,577	41.1%	\$76,622,603	67.1%
HH Income	\$36,952	\$58,260		\$44,432		\$36,875	
Michigan							
\$40 benchmark	\$133,039,135	\$130,056,277	2.2%	\$109,899,910	17.4%	\$81,984,025	38.4%
\$30 benchmark	\$273,337,536	\$258,945,146	5.3%	\$206,520,741	24.4%	\$144,040,985	47.3%
\$20 benchmark	\$586,650,242	\$536,640,856	8.5%	\$410,807,372	30.0%	\$274,800,265	53.2%
HH Income	\$31,020	\$50,138		\$36,607		\$29,265	